

REMARKS

This amendment is filed to correct claims 4-6 from claiming a method to instead claiming an apparatus, and so to be apparatus claims corresponding to the method claims provided as claims 1-3.

Attached hereto is a marked-up version of the changes made to the application by this amendment. The attachment is captioned "Version with marking to show changes made."

CONCLUSION

It is believed that claims 1-6 are in condition for allowance and their passage to issue is earnestly solicited.

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Date

Respectfully submitted,

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Version With Marking To Show Changes Made

In the claims:

Claims 4-6 are amended as follows.

4. (Amended) ~~A method~~An apparatus for determining component flow rates of a multiphase fluid in a conduit, the fluid consisting of at least three known components, the ~~method~~apparatus ~~comprising the steps of:~~
- a) means for measuring at each of two different positions along the conduit at least four mixture quantities;
 - b) means for providing a speed of sound in each of the components at the measured pressures and temperatures;
 - c) means for providing a trial value for each of either the component flow rates or the phase fractions;
 - d) means for using a predetermined model to calculate values for the measured mixture quantities based on the trial values for each of either the component flow rates or the phase fractions;
 - e) means for using a predetermined error function to determine an error value; and
 - f) means for using a predetermined optimizing algorithm to determine whether the calculated values are acceptable, and, if they are not, to provide a new trial value for each of either the component flow rates or the phase fractions.
5. (Amended) ~~A method~~An apparatus as in claim ~~1~~4, wherein the error function is the sum of the squares of the difference between the measured and calculated values at each point.
6. (Amended) ~~A method~~An apparatus as in claim ~~1~~4, wherein the four mixture quantities are the sound speed, the flow velocity of the multiphase fluid, the pressure and the temperature.